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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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1474(TOUCHSTONE)

7698

48642

7590

06/19/2008

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EXAMINER

VO, HAI

ART UNIT

PAPER NUMBER

1794

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/882,096	Applicant(s) JOSEPH ET AL.	
	Examiner Hai Vo	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4, 8-14, and 17-22 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2, 3, 8-13 and 17-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The 102 art rejections over Newell have been withdrawn in the favor of the 103 rejections.
2. All other art rejections are maintained.
3. The obviousness-type double patenting rejections will not be withdrawn until the submission of the terminal disclaimer.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 3, 8-12, 14, and 17-22 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chapman, Jr. (US 6,655,633). Chapman discloses a composite structure comprising a tubular core sandwich between two layers of fiber

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reinforced metal matrix composite (figures 1, 3 and 21D, column 10, lines 55 to column 11, lines 5-45). The tubular core has two planar surfaces and includes a plurality of continuous, parallel, longitudinal channels (figure 21D). The fibers are glass fibers, boron fibers. The tubular core is made from fiber composite material wherein the composite material is a metal matrix composite comprising a continuous fiber aluminum (column 9, lines 33-35, column 11, lines 35-55). Chapman does not specifically disclose the width of the channel. However, it appears that the composite structure of Chapman and the composite sandwich of the present invention are found useful in aerospace applications, therefore, it is not seen that the width of the channels would be outside the claimed range so as to be useful in the same aircraft applications. Chapman does not specifically disclose the tubular core made from extrusion. However, it is a product-by-process limitation not as yet shown to produce a patentably distinct article. It is the examiner's position that the article of Chapman is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity (see discussion in the paragraph above). Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the

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prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with the composite structure of Chapman. Accordingly, Chapman anticipates or strongly suggests the claimed subject matter.

7. The art rejections over Chapman have been maintained for the following reasons. The examiner notes that Chapman does teach the skin made from a continuous fiber aluminum metal matrix composite tape. The tubular core is made from fiber composite material wherein the composite material is a metal matrix composite comprising a continuous fiber aluminum (column 9, lines 33-35, column 11, lines 35-55). Chapman does not specifically disclose the width of the hollow tube. However, it appears that the composite structure of Chapman and the composite sandwich of the present invention are found useful in aerospace applications, therefore, it is not seen that the width of the hollow tube would be outside the claimed range so as to be useful in the same aircraft applications. Applicants contend that Chapman does not teach an integral

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- extruded multi-void core such that the core is seamless. The arguments are not found persuasive for patentability because they are not commensurate in scope with the claims. Nothing in the claims is specific about the seamless core. As such, that feature needs to be incorporated into the claims to show the distinction of the product of the present invention over the prior art.
8. Claims 2, 10, 11, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newell (US 5,407,727). Newell discloses a structural component comprising a metallic tubular core sandwich between two skin layers of continuous fiber reinforced metal matrix composite tape (figures 4 and 8). The core comprises a plurality of channels extending along a direction of the thickness of the structural component. The hollow fibers are formed from carbon coated silicon carbide fibers (column 3, lines 17-19). The metal matrix comprises an aluminum matrix material (column 1, lines 15-20; 43-45, claims 2 and 3). Newell discloses the conventional reinforcing fibers are ***hollow fibers*** which are made from silicon carbide, alumina fibers (column 1, lines 50-55). Newell does not teach the reinforcing fibers made from carbon coated silicon carbide hollow fibers. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the carbon coated alumina hollow fibers for the carbon coated silicon carbide hollow fibers because silicon carbide and alumina have been shown in the art to be

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recognized equivalent ceramic hollow fibers for structural components in aerospace industry.

9. Claims 2, 10, 11, 14, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al (US 6,630,093) in view of Joseph (US 5,968,671). Jones teaches a composite material for use in aircraft structure comprising a metallic core material with a skin covering the core material (column 6, lines 57-65, column 4, lines 55-56). The core material comprises a micro multi-void core having two planar surfaces and including a plurality of continuous parallel, longitudinal channels, each extending in a direction parallel to the planar surfaces (figures 6 and 7). Jones discloses that the core with a solid internal structure is converted to the core with a non-solid internal structural pattern (column 14, lines 60-65). The non-solid structure is composed of trusses arranged in a tensegrity pattern (column 15, lines 35-40). Likewise, the core would have no seams, no joins between the voids. Additionally, Jones discloses the freeform- fabricated cores are virtually seamless (column 17, lines 1-10).

Jones teaches the skin made from a ceramic fiber reinforcing metal matrix composite material (column 5, lines 5-25). Jones does not specifically disclose the ceramic fibers being continuous alumina fibers. Joseph, however, teaches a brazed composite material for use in aircraft skins made from an aluminum matrix composite material reinforced with continuous alumina fibers. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a

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braze composite material of Joseph as the skin material of Jones because continuous alumina fibers offer outstanding improvements in mechanical properties over particulate fibers (see Joseph column 4, lines 15-20).

Jones does not teach the core comprises an extrusion. However, it is a product-by-process limitation not as yet shown to produce a patentably distinct article. It is the examiner's position that the article of Jones as modified by Joseph is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Jones/Joseph.

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10. Claims 3, 8, 9, 12, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al (US 6,630,093) in view of Joseph (US 5,968,671) as applied to claim 19, further in view of Gunnink (US 4,935,291). Jones does not specifically disclose the metal core formed from aluminum, copper or alloys of aluminum and copper. Gunnink, however, teaches a composite laminate for use as construction material of aircraft wings. The composite laminate comprises a metal core sandwiched between two composite skins. The core is an alloy of aluminum and copper (column 2, lines 35-40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a core material formed from an alloy of aluminum and copper motivated by the desire to provide the core with sufficient tensile strength for use in aircraft wings.

11. The art rejections based on Jones have been maintained for the following reasons. Applicants contend that Jones does not teach an integral extruded multi-void core such that the core is of unitary construction without seam between the voids. The arguments are not found persuasive for patentability because they are not commensurate in scope with the claims. Nothing in the claims is specific about no seams, no joins within the core. Additionally, it is noted that Jones does teach this feature. The examiner directs Applicants' attention to column 14, lines 60-65. The core with a solid internal structure is converted to the core with a non-solid internal structural pattern. The non-solid structure is composed of trusses

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arranged in a tensegrity pattern (column 15, lines 35-40). Likewise, the core would have no seams, no joins between the voids. Additionally, Jones discloses the freeform-fabricated cores are virtually seamless (column 17, lines 1-10).

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 2, 3, 8-12, 14, and 17-22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 11/000,521. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending Application No. 11/000,521 fully encompasses the presently claimed subject matter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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14. The provisional obviousness-type double patenting rejection will not be withdrawn until the submission of the terminal disclaimer.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on Monday through Thursday, from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hai Vo/
Primary Examiner, Art Unit 1794